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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/848,046	05/03/2001	Yasumori Hino	YAMAP0594USA	5579

7590 07/07/2004

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EXAMINER

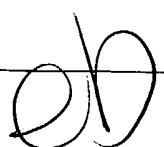
ANGEBRANDT, MARTIN J

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 07/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/848,046	Applicant(s) HINO ET AL.	
	Examiner Martin J Angebrannt	Art Unit 1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2004 and 24 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☒ Certified copies of the priority documents have been received in Application No. 09/128,121.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

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1. The response of the applicant has been read and given careful consideration. Responses to the arguments offered by the applicant are presented after the first rejection to which they are directed. Prosecution is reopened in response to the RCE filing. The rejection under 35 U.S.C. 112, first paragraph and the rejection under 35 U.S.C. 102 are withdrawn based upon the amendment to the claims. Section 405,406 in the groove/track region shown in figure 6C on the right side of that figure and similar illustrations in the other figures show the deformed data regions in the track/track areas together with the double wide grooves/tracks (401) on the left side of figure 6C, which are data recording regions [0092 in prepub], support the language of the amendment submitted by the applicant. The limitations of claims 11 and 12 are interpreted by the examiner as limited to structures similar to those (405,406) shown in figure 6C and similar structures.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawase '063, in view of Van et al. EP 0304312.

Kawase '063 in figure 8, discloses the formation of the clock groove (501) which is oriented perpendicular to the tracks is produced by multiple exposure of the resist with the beam deflected radially by a small pitch so that the successive exposure overlap. (5/4-14).

In Van et al. EP 0304312, see the description with respect to figures 5a and figures 6a, where the first exposure using two beams forms two tracks (figure 5a) and the second shifts the beams so that the leftmost beam overlaps with the previously exposed region by "L". The formation of a metallized stamper and the use of the stamper to in embossing or injection molding is disclosed. (col. 6/lines 41-54).

It would have been obvious to one skilled in the art to apply the mastering technique with deflection of a single beam, rather than the two of Van et al. EP 0304312 with a reasonable expectation of achieving the wider grooves disclosed in Van et al. EP 0304312 to produce guide grooves disclosed by Van et al. EP 0304312 as desirable, but without the need for the additional beam division and modulation means to produce the second beam from the single laser of Van et al. EP 0304312 which represents a savings in capital costs obvious to one skilled in the art. Further, it would have been obvious to one skilled in the art to modify the disclosure of Kawase '063 by further in the mastering process to include metallization and the formation of optical disks based upon the resist pattern as taught by Van et al. EP 0304312 as this is entirely conventional in the art and provides for a more robust stamper than the resist alone.

The applicant has argued that the advantage of the claimed invention is the reduced equipment (reply at page 5/lines 11-14). The underlying basis for this is a savings in capital expenses, which the applicant is hardly the first to appreciate and would be readily appreciated by one skilled in the art viewing the references applied. The use of a deflection to produce and overlapping condition with previously exposed areas of the resist in both references serves further to drive one of ordinary skill in the art to this conclusion.

The applicant argues that Kawase et al. does not teach that the technique used to form the clocking pit could be used to form grooves. The examiner notes that the overlapping exposure of beams in different, successive rotations of the resist coated disk is used in both Kawase et al. and Van et al., the difference being Kawase et al. only uses a single beam to form the clocking pit, while Van et al. uses two beams (see figures 5a and 6a of Van et al.) to form the wider grooves. The reduction in the equipment is clear from the figures showing the optical exposure apparatus and provides a clear benefit, while increasing the exposure time relative to Van et al. The process of overlapping exposures during successive exposures to form grooves as set forth in the claims is obvious as is the benefit.

4 Claims 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawase '063, in view of Van et al. EP 0304312 and Inui et al. EP 570235.

Inui et al. EP 570235 shows the use of two different groove widths in figure 3 with a sloped region between the two widths.

In addition to the basis provided above, the examiner holds that it would have been obvious to modify the process resulting from the combination of Kawase '063 and Van et al. EP 0304312 to form tapered groove regions, such as that shown in figure 3 of Inui et al. EP 570235 with a reasonable expectation of success based upon the use of the deflector to shift the beam(s).

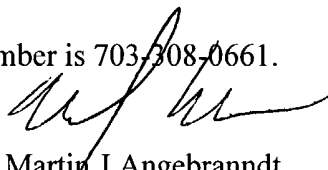
5 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin J Angebrannndt whose telephone number is 571-272-1378. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone numbers for the

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organization where this application or proceeding is assigned are 703-872-9309 for regular communications and 703-872-9309 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Martin J Angebranndt
Primary Examiner
Art Unit 1756

July 6, 2004